

Digital Learning Timeline

*Prepared for the October 4, 2012 Digital Learning Environments Committee
Co-chaired by Senator Dan Soucek and Representative D. Craig Horn*

The timeline below indicates the actions taken by the General Assembly based on recommendations from the Business Education Technology Alliance (BETA) and the eLearning Commission (eLc) for K12. It is important to note that other activities related to digital or eLearning were taking place in partnership with other groups such as the 1:1 Learning Initiative which is a partnership of businesses led by SAS, the GoldenLEAF Foundation, BETA, the Friday Institute, MCNC, other businesses and local schools.

2005

- The Business Education Technology Alliance chaired by Lt. Governor Bev Perdue recommended the creation of the NC Virtual Public School and that a feasibility study utilizing the current state assets for developing regional technology networks to support K12 to be completed.
- The General Assembly allocated \$150K for a director to develop a plan for implementation of NCVPS beginning 2006-07 and for \$150K for a feasibility study for K12 technology networks.

2006

- The e-NC Authority in collaboration with the Friday Institute and BETA completed "Developing Regional Networks" report and presented it to the General Assembly recommending the expansion of the North Carolina Research Education Network (NCREN) to the K-12 community.
- The General Assembly passed Senate Bill 1741 allocating \$6M non-recurring based on the recommendation of the BETA to expand the number of schools with broadband, selectively build out networks to rural and under performing schools, and develop a scalable model for statewide implementation.

2007

- The General Assembly provided \$12M recurring funds to continue the implementation of the School Connectivity Initiative. This decision was made based on the results of the \$6M pilot for a scalable plan to build out the network.
- The General Assembly established the NCVPS based on the plan developed and directed that it's funded come the Public School Fund and not from the LEAs. NCVPS was to prioritize e-learning course offerings for students residing in rural and low-wealth county LEAs, in order to expand available instructional opportunities. First available e-learning instructional opportunities should include courses required as part of the standard course of study for high school graduation and AP offerings not otherwise available.

2008

- The General Assembly expanded the School Connectivity Initiative SCI by \$10M for a total of \$22M to complete the implementation of the SCI increase schools' abilities to use up-to-date instructional technology.

- The General Assembly authorized that (\$600,000) be transferred annually through June 30, 2010, to the Friday Institute at North Carolina State University to evaluate the effectiveness of using technology and its impact on 21st Century Teaching and Learning outcomes approved by the State Board of Education.
- The General Assembly directed the State Board of Education to implement an allotment formula for NCVPS effective in the 2009-2010 fiscal year. It also directed that NCVPS be available at no cost to all students in North Carolina who are enrolled in North Carolina's public schools, Department of Defense schools, and schools operated by the Bureau of Indian Affairs. Further, it directed the Department of Public Instruction to communicate to local school administrative units all applicable guidelines regarding the enrollment of nonpublic school students in these courses.

2009 to 2012

The actions below denote recommendations from the eLearning Commission to maintain funding rather than expand due to budget reductions during a fiscally challenged time for the state and country. Full recommendations from eLearning which include P20 can be found in the July 2012 eLearning Matrix. The full recommendations include maximizing ARRA funds including Race to the Top and other short term funding opportunities that may need to be addressed as the fiscal climate improves.

- The General Assembly continues to hold harmless funding for the School Connectivity Initiative. The investment by the state is leveraged for e-rate reimbursement back to the LEAs which has increased from \$24M in 2007 to over \$120M in 2012. These funds are used by the LEAs to upgrade their internal infrastructures and hardware.
- The General Assembly modified the NCVPS funding formula to one that was more predictable for LEAs since the formula instituted in 2009 was not a formula based on use by LEAs. NCVPS prior to 2009 was funded from other sources of funds that did not take from the LEAs. With the institution of the formula, LEAs were charged for their use of NCVPS which created issues for the LEAs. There is a need to continue to find new sources of revenue for digital learning including funding for NCVPS that encourages the use of virtual.
- The General Assembly modified the language for NCVPS so that it can market its courses to other states, private school students and home school students.
- The General Assembly passed the North Carolina Longitudinal Data System An Act to create the North Carolina Longitudinal Data System and governing board; and to provide that private colleges and universities, nonpublic schools, and the North Carolina Independent Colleges and universities are not liable for a breach of confidentiality caused by the act or omission of a state agency, local school administrative unit, community college, or constituent institution of the University Of North Carolina.

Note: The USED awarded \$4M in June to implement the capacity of the state's Preschool to Workforce Statewide Longitudinal Data System (SLDS). This effort was done in collaboration with multiple agencies and completes the unique student identifier which is necessary to track data across all systems.

- The General Assembly funded \$10M in 2010 for the implementation of reading diagnostics using hand held mobile devices, eliminated the funding in 2011 and restored the funding as part of a K-3 reading initiative funded at \$27M.

Note: Attached to this time is an overview of the School Connectivity Initiative and MCNC.

NC School Connectivity Initiative

The School Connectivity Program is the culmination of several years of vision surrounding the 21st century classroom, and developing a North Carolina workforce poised to meet the challenge of a global economy. In 2006, year the e-NC Authority presented their "Developing Regional Networks" report to the General Assembly recommending the expansion of the North Carolina Research Education Network (NCREN) to the K-12 community. As a result in the 2006 session, the General Assembly passed Senate Bill 1741 allocating \$6M non-recurring to expand the number of schools with broadband, selectively build out networks to rural and under performing schools, and develop a scalable model for statewide implementation. Since the funding is non-recurring, projects were selected that have the greatest impact on student achievement and highlight practices that will serve as the model for a sustained and funded program.

In 2007, the Connectivity Implementation Plan was presented to and approved by the State Board of Education. The program is centered around four essential elements:

- 21st Century curriculum, instruction, assessments, and accountability
- Technology tools in the classroom
- Personnel and professional development
- Connectivity, networks, and accountability

Bills in the House and Senate, and the Governor's biennium budget all recommended recurring funds for connectivity. The 2007 budget bill included a \$12M recurring line item for the program. As a result of funding, the team is now working to finalize implementation plans, and begin the process of site and health assessments for LEA networks.

Planning Background

The Developing Regional Education Networks BETA report, May 2006, provides background for the development and funding of a statewide education network supporting preK-12 public schools. The report recommends specific actions including:

- Provide a common network backbone
- Establish the NC Education Network
- Plan a 3-year Implementation Timeline

For Fiscal Year 2007, the NC General Assembly appropriated \$6M in Senate Bill 1741 to fund School Connectivity as an initial investment aimed at addressing the recommendations presented in the report. Pursuant to the SB1741 School Connectivity legislation the State Board of Education, the Lieutenant Governor's Office and the Office of the Governor initiated a School Connectivity Planning Project. The Office of Information and Technology Services approved the School Connectivity Planning Project, DPI0739, in January 2007. DPI0739 deliverables include, "A plan documenting a business framework and operational model, governance and advisory structure, e-Rate consortium plan and financials." In compliance with that deliverable commitment we offer this "School Connectivity Initiative Implementation and Operating Plan."

In developing this plan the School Connectivity Initiative project team based its work on the criteria established by the School Connectivity Advisory Group. The team conducted site surveys with nearly 40 North Carolina Local Education Agencies (LEAs), interviewed representatives from existing K-12 statewide networks, discussed E-rate consortium possibilities with peer state and FCC leaders, and initiated four connectivity

demonstration projects (pilots). Through this due diligence process, connectivity-related considerations were explored, including:

- A range of representative network architectures
- Opportunity to leverage public-private partnerships
- Best practice operating principles of sustained statewide education networks
- Support for educational consortia
- Applications and services enabled by connectivity
- E-rate support considerations
- LEA support models
- Organizational models
- This work was culminated with a detailed implementation plan of five broad strategies: connectivity, services, collaboration, organization, and funding.
- Essential Elements For Future-Ready Schools

Modifications to the plan have taken place with the implementation of the Race to Top plan which includes further enhancement to the statewide network and the use of technology in NC's schools.

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MCNC Summary

Founded in 1980 as an initiative of the North Carolina Office of Science and Technology and the administration of then North Carolina Governor James B. Hunt, Jr., the private non-profit Microelectronics Center of North Carolina (MCNC) originally had two areas of focus.

The first was to accelerate, through basic and applied research, the growth of the information technology and advanced computer networking industry in North Carolina. From 1980 to 2000, MCNC employed researchers in developing a portfolio of patents and intellectual property that led to the direct launch of seven companies and served to attract General Electric, Northern Telecom, Cisco and other major tenants to Research Triangle Park.

MCNC's research focus ended with the research assets being distributed to the Research Triangle Institute and to institutions of the University of North Carolina System between 2000-2003. During this period, one of the private companies spun off from MCNC, Cronos, was sold to optical chip manufacturer JDS Uniphase for \$750M. MCNC used its \$170M share of the proceeds from this sale to help the State of North Carolina:

- Promote rural broadband distribution - \$30M to private providers through the Rural Internet Access Authority (RIAA)
- Promote entrepreneurial growth through a \$40M investment and the forming of NC IDEA, a firm that provides seed capital and advisory services to technology and biotechnology start-ups in North Carolina.
- Provide a \$60M down payment on a fiber optic network infrastructure that would serve the broadband needs of North Carolina's K20 public education institutions and other public community anchor institutions. This investment helped in the formation of the North Carolina Research and Education Network (NCREN) which MCNC has operated since NCREN's inception in the early 90's.

The second focus of MCNC is the operation of NCREN, an advanced fiber infrastructure that serves the broadband needs of K20 Public Education institutions in the state and other community anchor institutions (non-profit hospitals, public safety, public health, libraries). Approximately 40 states have research and education networks but North Carolina's NCREN is the only network that did not require substantial direct investment by State government to assist in its formation. Recently, MCNC has parlayed its own \$8 million investment to attract an additional \$136 million in private and federal funding that will make NCREN an asset that will serve the broadband needs of the education and other community anchor institutions (public health, non-profit hospitals, public safety, government entities) for the next 25 years. This investment places North Carolina at a competitive advantage with other states and countries. A scalable infrastructure that allows North Carolina's community anchor institutions to keep up with exploding bandwidth demand at operating costs fixed at current levels.

In addition, this investment, if partnerships with private for profit telecommunications and cable companies are formed will increase broadband availability in rural areas of the state that lack competitive broadband offerings that will scale to today's and future broadband needs of citizens, businesses and community anchor institutions.

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